REMARKS

I. Status of the Specification and Claims

The Specification is objected to for the reasons set forth on page 2 of the Office Action. The Office has raised the question of whether, in the paragraph at page 13, lines 15 to 29 of the Specification, the phrase on line 9 thereof indicating "side 'A' to side 'B'" should be "side 'B' to side 'A'". The Office notes that the prior paragraph beginning at page 12, line 30 uses the phrase "side 'B' to side 'A'".

Applicants note that the two paragraphs referenced in the objection actually refer to two different figures, i.e., Figure 1 for the paragraph beginning on page 12, line 30 and Figure 1a for the paragraph on page 13, lines 15-29. In the earlier Amendment of November 14, 2006 and March 1, 2007, Applicants noted that areas "A" and "B" had been reversed on the drawings. In Figure 1, differential pressure across the joint from side "B" to side "A" provides compressive force upon the girdle between the two mating surfaces. In Figure 1a, the orientation is reversed, i.e., differential pressure across the joint from side "A" to side "B" provides compressive force upon the girdle between the two mating surfaces. Applicants believe the current text in the two paragraphs referenced from the Specification is correct and that no further amendment is necessary. Applicants appreciate the Office's concern about this point.

Claims 1-11 and 13-17 are pending. After entry of the Amendment requested herein, new Claims 26-33 will be added.

Claims 1-3, 7-8, 10-11 and 14 are rejected under 35 USC §102(e) as anticipated by US Patent 6,547,286 (White et al.). Claims 4-6, 9, and 13 are rejected under 35 USC 103(a) as unpatentable over White et al. in view of the article identified as "Fabrication of Ceramic-Membrane Tubes For Direct Conversion of Natural Gas" by Balachandran et al. (hereafter "Balachandran et al.). Claim 15 is rejected under 35 USC §103 (a) as unpatentable in view of White et al.

Claims 16-17 are indicated as being allowable if written in independent form with all of the limitations of the base claim and any intervening claims.

II. Concerning the Amendments

Applicants have requested the addition of new Claims 26-33 which is intended to address the Office's indication of allowability of dependent Claims 16-17. New Claims 26-33 capture the subject matter of Claims 16-17 in independent form. As such, Applicants believe Claims 26-33 are also allowable. No new matter is involved.

III. The Claimed Invention

In a broad aspect, the present invention relates to a joint resistant to fluid leakage, which joint comprises:

a girdle of a metallic material capable of undergoing deformation without rupture,

a first rigid member with a tapered outer mating surface, and

a second rigid member with a tapered inner mating surface,

the girdle being disposed between and contiguous with the tapered mating surface of the first rigid member and the tapered inner mating surface of the second rigid member, wherein differential pressure across the joint provides compressive force upon the girdle through the mating surfaces thereby improving resistance to fluid leakage through the joint.

The joints of the present invention are particularly advantageous for joining gas-tight members having different coefficients of thermal expansion, wherein a difference in fluid pressure across the joint provides compressive force upon the girdle, and thereby improves resistance to fluid leakage across the joint. See, Specification at page 1, lines 4-11. In embodiments, the girdle used in forming the joint may comprise a composite material. Specification at page 1, lines 11-16 and page 7, lines 18-29. The joint may eliminate a need for mechanical devices to hold the joint in place. Specification, at page 4, lines 7-9.

IV. Concerning Rejection under §102(b)

Claims 1-3, 7-8, 10-11, and 14 are rejected under 35 USC §102(e) as anticipated by the teachings of White et al. The Office Action indicates that White et al. disclose a joint assembly for joining a ceramic membrane to a tube sheet to support the ceramic membrane within a reactor. The Office Action continues by stating that the sealing material employed can be a "brazing material" which can be effected by "known brazing techniques". It is also said that the brazing material is known to be a metallic material and that the "brazing process plastically deforms the brazing material." Applicants disagree that White et al. teaches or suggests the use of a solid member, i.e., a girdle, and that such a girdle member is subject to plastic deformation upon application of differential pressure across the joint as claimed herein. Applicants respectfully traverse the rejection.

The sealing material the Office is apparently pointing to in the White et al. patent is identified as 28 on Figure 3 of the reference. At column 5, lines 49-56 of he reference it is said:

> "As may be appreciated, other types of sealing material 28 can be used in place of high temperature roe sealing material 30. For instance, sealing material 28 could be a conical gasket fabricated from either a graphite sheet, a ceramic fiber mat or felt, or a combination of graphite and ceramic fiber. The ceramic-to-metal seal could be effected by known brazing techniques; and in such case, sealing material 28 would be brazing material."

No other teaching is mentioned by White et al. with respect to brazing.

Brazing is a joining process where a non-ferrous metal or alloy is heated to its melting temperature and distributed between two or more close fitting parts by capillary action to effectuate a seal. See, Wikipedia online encyclopedia of November 28, 2007 - http://en.wikipedia.org/wiki/Brazing. Heat is applied to melt the brazing material, which then interacts metallurgically with the metals being joined to effectuate a seal. Brazing does not use a member, such as a girdle member as claimed, which is capable of plastic deformation upon being subjected to differential pressure across the joint being formed. The melting of solder or brazing material into a liquid form is not plastic deformation without rupture as claimed in the present invention. Due to this significant difference, Applicants respectfully submit that the

teachings of White et al do not anticipate the claimed invention herein. Applicants traverse the rejection and request withdrawal of the rejection.

V. Concerning Rejection Under §103 (a)

Claim 15 is rejected under 35 USC §103 (a) as unpatentable over White et al. The Office takes the position that a variety of alloys of metals such as silver, tin, zinc, and copper are commonly use as fillers for brazing materials. As discussed above with respect to brazing, heat is applied to melt the brazing material, which then interacts metallurgically with the metals being joined to effectuate a seal. Brazing does not use a solid member, such as a girdle as claimed, which is capable of plastic deformation upon being subjected to differential pressure across the joint being formed. The melting of solder or brazing material into a liquid form is not plastic deformation without rupture under differential pressure as claimed in the present invention. Due to this significant difference, Applicants respectfully submit that the teachings of White et al also do not fairly suggest the claimed invention herein.

Claims 4-6, 9 and 13 are rejected under 35 USC §103 (a) as unpatentable over White et al. in view of Balachandran et al. As discussed above, there are significant differences between the teachings of White et al. and the claimed invention herein. White et al. do not teach the use of a sealing member of a metallic material, such as the girdle as claimed herein, nor one that is capable of undergoing deformation without rupture. The teachings by White et al. suggest that the sealing material is converted to a liquid form by brazing. The teachings of Balachandran et al. are directed, as the Office Action recognizes, to use of specific ceramic membranes. The teachings by Balachandran et al. are not directed to sealing members and thus, add nothing to the teachings by White et al.

As a result, Applicants submit that Claims 4-6, 9, 13 and 15 are not rendered obvious in view of the teachings by White et al. and Balachandran et al. Applicants respectfully traverse these rejections and request withdrawal of the rejections.

VI. Concluding Remarks

In view of the foregoing Amendment and Remarks, Applicants respectfully request that the objection to the Specification as set forth in the Office Action be withdrawn, and that rejection of Claims 1-11 and 13-15 as set forth in the Office Action also be withdrawn and that such claims be reconsidered. Applicants submit all pending claims, Claims 1-11, 13-17 and 26-33 herein are in condition for allowance and such is respectfully solicited at an early date.

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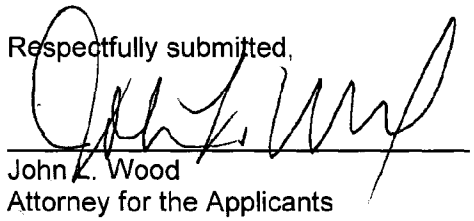
Respectfully submitted,



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